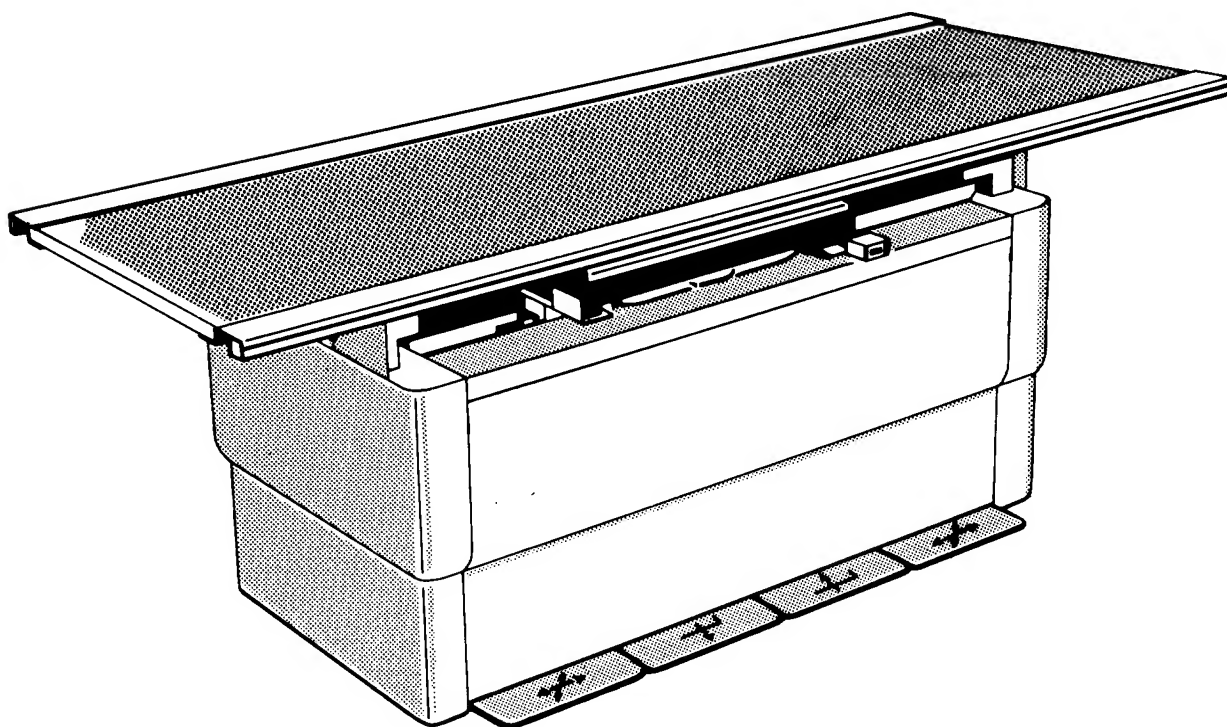


Operating instructions

ET 2000



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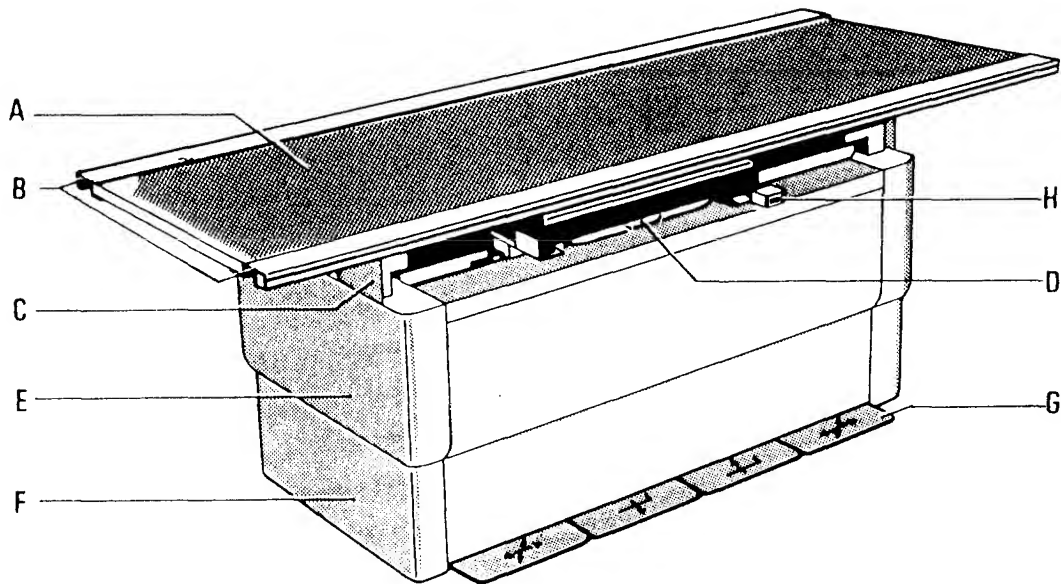
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DESIGN FEATURES

Concept



- A - Table Top, floating, manually moveable, scratch-proof, height-adjustable
- B - Profile Rail with trim cover, smooth, holds accessories
- C - Table Frame
- D - Bucky Unit, moveable
- E - Telescope Section of Table Base
- F - Table Base, solid, vibration-free
- G - Switch Pedals

GENERAL

Description /Area of Application

Description

The solid, vibration-free table base has a telescopic design. The unique advantage of lowering the table top to a level of 52.5 cm allows

- handicapped and injured patients to climb onto the table without difficulties;
- an easy and gentle transfer of patients from mobile stretchers onto the table by adjusting the table height.
- the transfer of handicapped patients from the wheelchair onto the table.

The additional possibility of raising the table top up to a level of 85 cm optimizes

- the adaptation of the unit to heights preferred by the operating personnel;
- the operating and working conditions.

The large and 220 cm long, floating table top is manually moveable and locks electromagnetically. For fast and easy positioning of the patient, it allows spacious travel -60 cm to the left, 50 cm to the right, and 12 cm transversely. Especially for patient comfort and easy cleaning, the table top offers a scratch-proof surface and is trim-covered, smooth profile rails are on both sides that accept accessories. The brakes as well as the raising and lowering mechanism of the table top are operated by means of large and easily accessible switch pedals. The safety switch on the Bucky unit prevents an unintentional movement of the unit. All pedal switches, combined in a foot switch rail along the table base front, have large and catchy symbols. The unit takes up Bucky trays as supplied by all leading manufacturers. The carriage is manually moveable along the entire table. It is electro-magnetically locked. The shortest possible film-to-skin distance of 65 mm guarantees images of superior geometric proportion.

Area of Application

The electromotive and telescopic adjustment of the table top to heights between 52.5 cm and 85 cm above floor level makes the "ET 2000" an ideally suitable unit in hospital emergency rooms as well as in private medical offices. The wide range of action of the table top and uncomplicated operation of the "ET 2000" increase patient comfort and facilitate all routine Bucky grid exposures - from head to foot.

INSTALLATION REQUIREMENTS

Floor Space/Room Height/Power/Mains/Prerequisite

Floor Space

The unit is designed for stationary operation. The approximate floor space requires dimensions of 330 cm by 105 cm.

Room Height

The required room height depends on the type of tube stand used. Refer to the installation data of the manufacturer. The "ET 2000" has a maximum working height of 85 cm above floor level.

Power

The unit is equipped for single-phase alternating current. Two versions are available, depending on order. Without line transformer, the unit corresponds to nominal rating as follows:

Nominal voltage : 230 V (115/208 V) A.C. 1L/N/PE

Rated connection current : 3,3 A (6,6/3,6 A)

Rated frequency : 50/60 Hz

Rated current : 5A (10/6,25 A)

Rated power consumption : 0.7 kVA

Mains

The mains connection requires a 30 mA fault current breaker installed in the building. The electrical installation must meet VDE Standard 0107. In countries outside the Federal Republic of Germany the relevant legislation has priority.

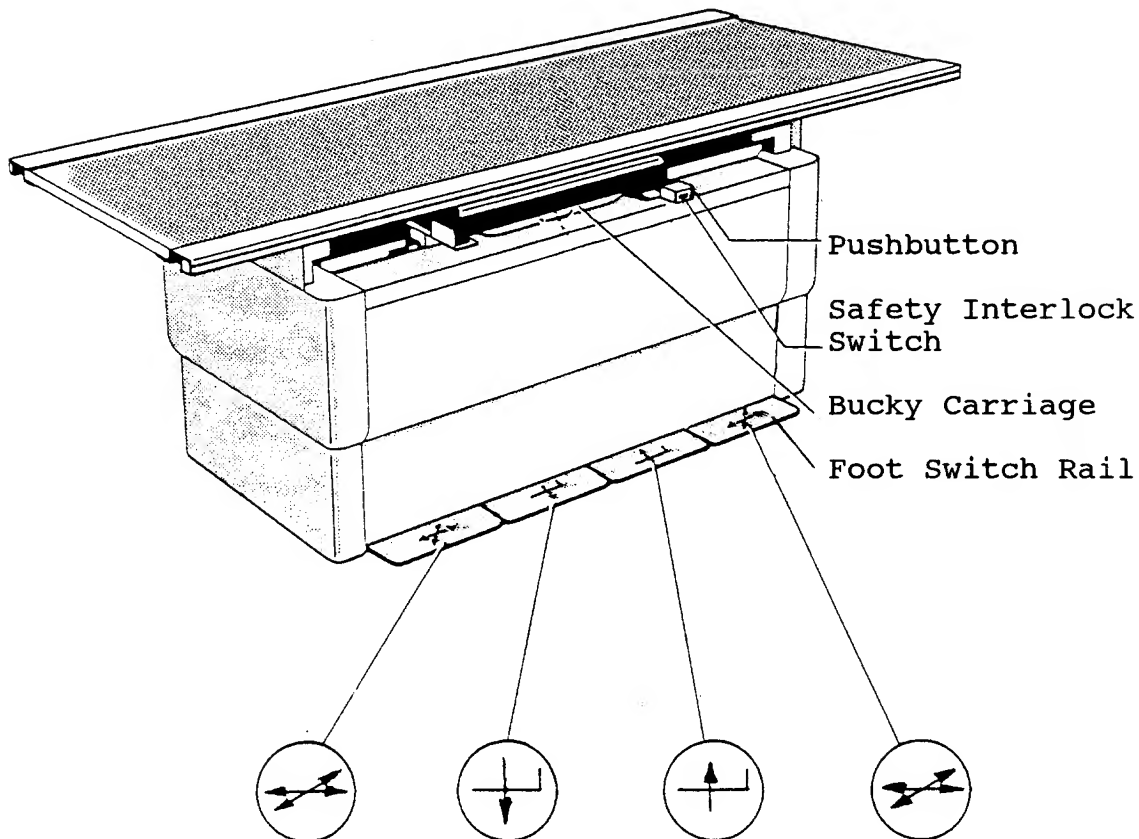
Prerequisite

For safe and efficient operation of this product the operating personnel must be familiar with the operator's manual, which has to be studied before putting into service. The chapter on "Safety Procedures" deserves special attention (cf. pp. 12).

OPERATING CONTROLS

Arrangement/Meaning of Symbols/Functions

Arrangement



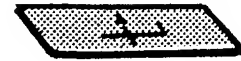
Meaning of Symbols/Functions

Switch Pedal for motorized lowering the table top down to 52.5 cm above floor level. The table moves downward as long as the safety interlock and the pedal are depressed. The lowering speed is with smooth start and finish. Automatic shutdown of the downward movement takes place in the end position and in exposure position. The exposure position depends on the system design, and is preset by our customer service according to the customer's request. Radiation can be triggered in exposure position only. To continue downward movement beyond the exposure position, release switch pedal and safety interlock switch. Then press again.



for motorized raising the table top up to 85 cm above floor level, the table raises as long as the safety interlock switch and the switch pedal are depressed. The raising speed is with smooth start and finish. Automatic shutdown of the upward movement takes place in the end position and exposure position. To continue upward movement beyond the exposure position, release switch pedal and safety interlock switch. Press again.

Switch Pedal



unlocks the brakes for the floating table top. As long as the pedal is depressed, the table top can be manually moved in longitudinal and in transverse direction.

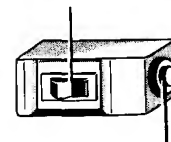
Switch Pedal



Release of the pedal locks the table top in its new working position.

unlocks the Bucky carriage brakes. As long as the button is pushed, the carriage can be moved in longitudinal direction.

Safety Interlock Switch



Release of the pushbutton locks the carriage in its new working position.

Pushbutton

For information on the operation of the Bucky carriage resp. the Bucky tray, the X-ray generator, tube stand, tube radiation field control, read instructions of the respective manufacturer.

Note

The "ET 2000" is ready for operation as soon as the generator is turned on. Concerning the start-up of the generator, refer to the manufacturer's instructions.

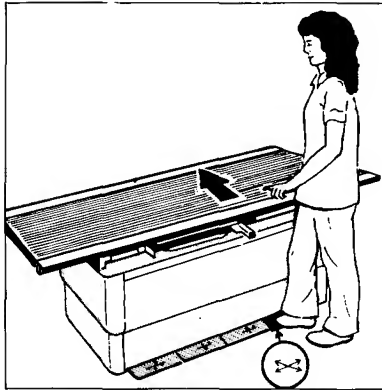
Start-up


An emergency stop switch has been installed in the examination room, the red switch button must be pushed immediately in case of danger for patients, personnel or equipment. Do not reoperate the equipment unless the danger has been definitely eliminated. To resume operation, turn the emergency-stop switch clockwise.

Emergency-stop

SETTING EXPOSURE POSITION/EXPOSURE

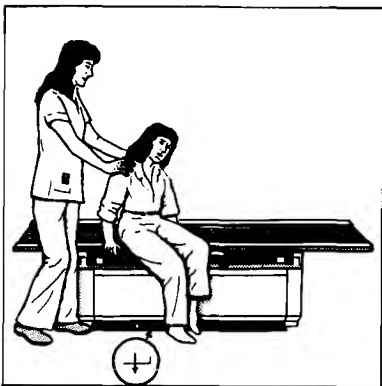
Patient Positioning/ Centering of Bucky, Object and Tube Unit.




Press the foot switch  to unlock the table top brakes.

Move the table top manually floating to the rear stop.

Release the foot switch.



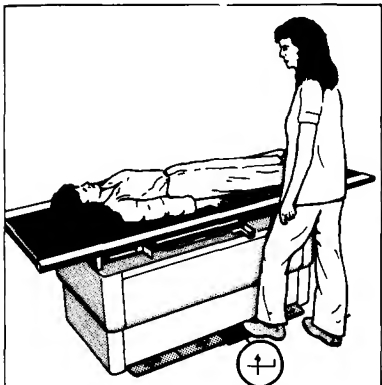
Press the foot switch  and the safety switch simultaneously. The table top is lowered by the motor in a telescopic way.


Release the switch when comfortable working height for patient access or transfer is reached.

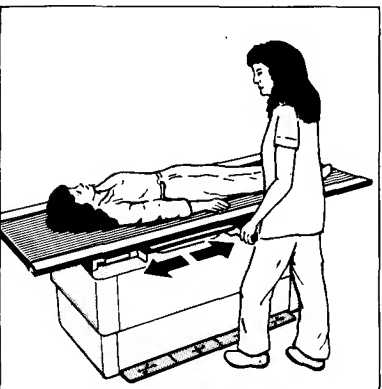
Note

When reaching the preset exposure position of the table top, the downward movement is interrupted automatically. To continue movement, release the foot switch.

Press again.



Press the foot switch  and the safety switch. The table top is lifted up by the motor to exposure position. Release the switch after the automatic stop.

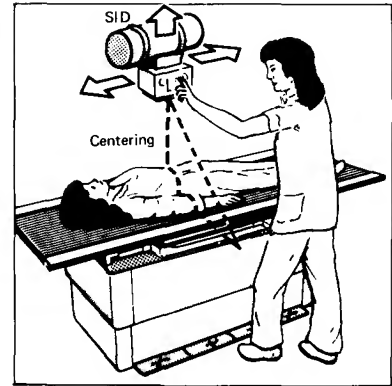


Press the push button and keep it pressed. Push the Bucky carriage to suitable exposure position. Release the push button.

Turn on the light field of the X-ray tube used, re. operating instructions of tube unit.

Center the tube over the Bucky carriage, re. operating instructions of tube stand.

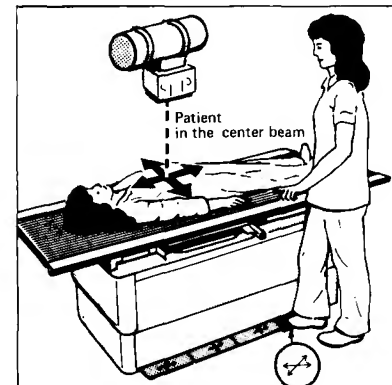
Set the film-focus distance (FFD), re. operating instructions of tube stand.



Step on pedal  to unlock the table top brakes.

Manually shift the floating table top, until the exposure object is in the central beam of the tube unit (light field!).

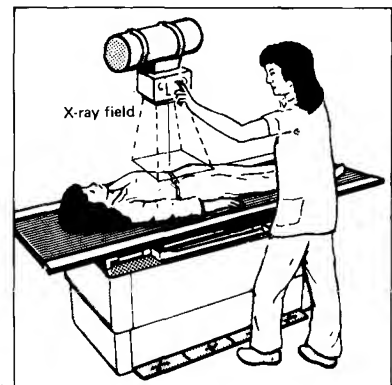
Release the pedal. The table top is electrically locked in its new working position.



Optimally collimate the X-ray field (light field) with the beam limiter of the tube assembly. Re. operating instructions of tube unit.

Note

Do not forget radiation protection devices for the patient (lead rubber apron, gonad protection, etc.).



Set the exposure parameters on the X-ray generator.

Check readiness for exposure.

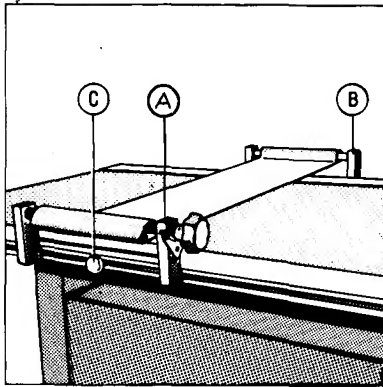
Instruct the patient not to move.

Trigger the exposure.

Accessories

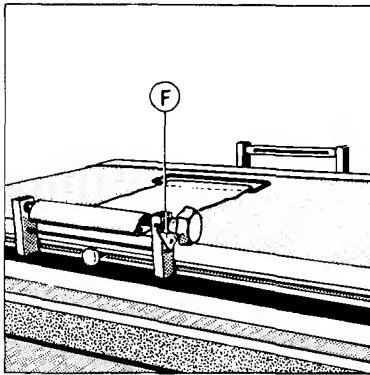
Compression Belt / Cassette Holder / Head Support / Hand Grips

Compression Belt

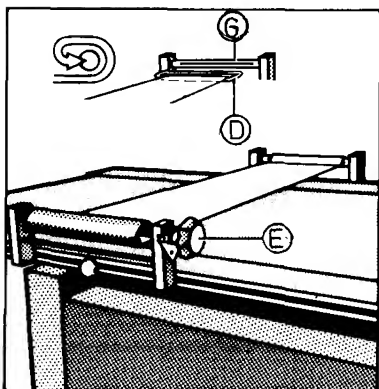


Installation

Insert the tensioning section (A) into the rail on the operator side and secure it in the working position by means of the grip screw. Insert the support section (B) into the opposite rail and secure it with the grip screw.



Press the pawl (F) and unwind the cloth belt to place it over the patient's body.



Now fit the end ring (D) in the slotted axis (G) and put one turn of the compression belt around the support section axis. Use the grip screw (E) to tighten the compression belt for patient fixation.

Relasing the compression belt:
Press the pawl (F).

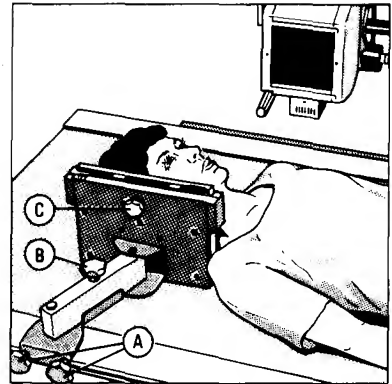
Lateral cassette holder

The lateral cassette holder permits lateral exposures if the tube unit is mounted to a tube swivelling device. The lateral cassette holder is slipped in one of the profile rails.

Grip screw (A): secures the holder at the table top

Grip screw (B): locks the holder setting

Grip screw (C): fixes the lateral position of the cassette clamps.

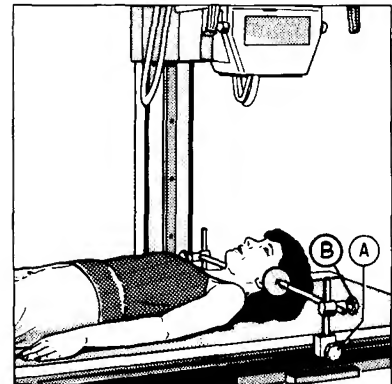


Head support

The head support is slipped in both profile rails of the table. It may be locked in any desired working position. The padded support disks can be adjusted to fix the patient's head in the necessary radiographic position.

Grip screw (A): secures the holder at the table top

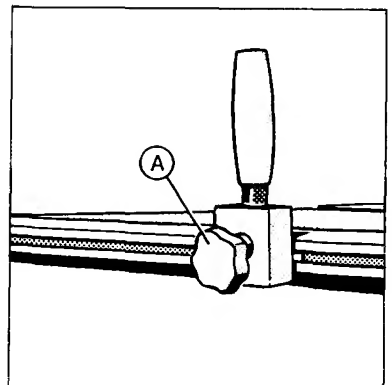
Grip screw (B): locks the support arms



Hand grips

The hand grips are slipped in the profile rails of the table. They may be fixed at any position and offer a reliable hold for the patient.

Grip screw (A): secures the grip in place

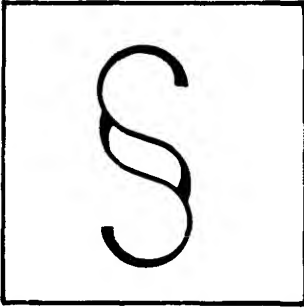


Important note:

The positioned patient may only hold on to the handgrips. In no case may he put his hands around the edge of the table top.

SAFETY PROCEDURES

Regulations/Product Safety



Regulations

It is the responsibility of the user to ensure that government regulations for in the operation of the equipment are observed. The safety of patients, personnel, and others, as well as the efficient functioning of the equipment require periodic service inspections at 12-month intervals and according to maintenance schedule. Please apply to our service organization for inspection and maintenance. By all means Inspection intervals have to meet the requirements of the respective legislation or government regulations.

Changes and additions to the equipment must comply with relevant legislation as well as with accepted standards of good practice. As manufacturers of electromedical systems, we assume responsibility for the safety of the equipment only if maintenance, repairs, and changes are carried out exclusively by us or third parties expressly authorized by us to do so, and if defective parts relating to the safety of the equipment are replaced by genuine spare parts.

We recommend to ask the service personnel to issue a certificate specifying the kind and extend of the repair carried out, including details on any change of ratings or working ranges. Also, the certificate should show the date of repair, the name of the service company, and the signature of the technician. Before operating the equipment, the operator must control all devices concerning the safe and efficient functioning. Special attention must be paid to the accurate functioning of the safety device for lowering the table.

Always disconnect the equipment from the mains for cleaning or disinfection. We recommend that parts coming in contact with the patient should be cleaned as follows:

Cleaning: Use non-abrasive cleaning agents, such as mild detergents etc.

Disinfection: Use diluted, aqueous disinfectant solutions.

Product Safety

Explosion Protection

The equipment is not intended for use in explosive atmospheres. Only use skin cleansers that form non-ignitable gas/air mixtures.

Protection Type and Protection Class

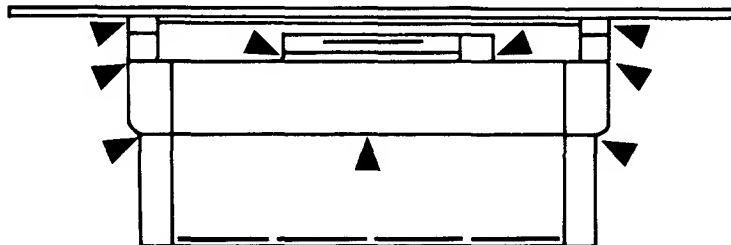
The equipment corresponds to protection type IP 20 and to protection class I.

HF Interference Suppression

The equipment complies with the regulations applicable in the Federal Republic of Germany, the major portion of which follows the CISPR Publications.

Mechanical Safety

Arrows in the sketch below indicate points of the equipment where there is a potential hazard for patients and operating personnel to get squeezed or bumped.



Radiation Protection

The equipment has no controls to turn on X-ray radiation. Exposures are released from the radiation-protected area at the control console. The general regulations for radiation protection must be observed.

Furthermore, we recommend the following measures:

1. Keep the tube current as low as possible.
2. Collimate the radiation field to the smallest possible dimensions.
3. Keep as far away as possible.
4. Provide adequate radiation protection for the patient.

Maintenance

Preventive maintenance should be performed by our service department in regular **12 months** intervals to ensure troublefree and long-lasting equipment operation as well as optimum safety for patient and user. (Refer to section "Maintenance" in the Installation Instructions).

Alterations as a result of technical progress are reserved.
TV/Ru

Hans Pausch X-Ray Equipment Manufacturer Erlangen, Germany